

**Notice of Allowability**

Application No.

10/509,017

Examiner

Kwasi Karikari

Applicant(s)

MARUTA, YASUSHI

Art Unit

2617

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/15/2007.
2. ☒ The allowed claim(s) is/are 2,3,5-11,14,15,17-23,27 and 28.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>03/31/2005</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                     | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. *Claims 2,3,5-11,14,15, 17-23,27 and 28 are allowed.*

The following is an examiner's statement or reasons for allowance.

Regarding claims 5,17,27 and 28, the prior art of record such as Matsuoka et al.

discloses a plurality of reception beams and a plurality of transmission beams (pluralities of antennas 10-1 to 10-N, 20-1 to 20-N for transmission/reception, see Pars. [0053 and 0075]; Figs. 1 and 4), and selecting the transmission beam on the basis of overall reception qualities calculated from reception qualities of path delays of user signals present in the plurality of reception beams (transmission is selected on the basis of the estimated arrival angle range that is associated with the average received power of desired wave, see Pars. [0065-66]; and delay profiles estimates associated with received signal.

The instant invention discloses a reception beam path detection means for detecting a path delay for each user signal from an output of the reception beam formation means; reception beam calculation means for calculating an overall reception quality for a path delay/reception beam number of a user signal present in the reception beam to output a user transmission beam number, and outputting user reception data using the path delay/reception beam number; path delay/reception beam selection means for selecting the path delay/reception beam number used for demodulation on the basis of a reception quality of a user signal corresponding to the path

delay/reception beam number as an output from said reception beam path detection means; user transmission beam switching means for receiving the user transmission beam number and the modulated user signal, and outputting the modulated user signal so as to form a transmission beam corresponding to the user transmission beam number; transmission beam selection means for selecting a transmission beam on the basis of overall reception quality calculated of the user signal for each reception beam that is notified by the reception beam calculation means, and notifying the user transmission beam switching means.

The combination of the above features in the claims are neither taught, suggested nor made obvious by Matsuoka et al and Yukitomo.

Dependent claims 2-10 and 12-18 are allowed for the same reason.

### ***Conclusion***

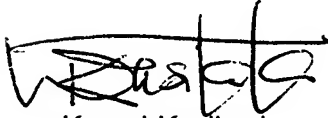
2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See attached form PTO-892 for cited reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kwasi Karikari  
Patent Examiner.  
04/13/2007



JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER